REMARKS

The Examiner is thanked for the due consideration given the application.

Claims 1-3, 5-16 and 19-21 are pending in the application. This amendment cancels claims 4, 17 and 18 and generally incorporates their subject matter into claim 1. The amendments to claim 1 and new claim 21 find support in paragraph 0041 of the specification.

No new matter is believed to be added to the application by this amendment.

Rejections Based on BECERRA et al.

Claims 1-7 and 10-20 have been rejected under 35 USC §102(e) as being anticipated by BECERRA et al. (U.S. Patent 7,270,907). Claims 8 and 9 have been rejected under 35 USC §103(a) as being unpatentable over BECERRA et al. in view of PRASED et al. (U.S. Patent Publication 2003/0138679 A1) or BULLOCK et al. (U.S. Patent Publication 2003/0207158 A1) or DEVOS et al. (U.S. Patent Publication 2005/0079128 A1). These rejections are respectfully traversed.

The present invention pertains to a removably mountable fuel cartridge for a fuel cell that is illustrated, by way of example, in Figures 1 and 2 of the application, which are reproduced below.

Fig. 1

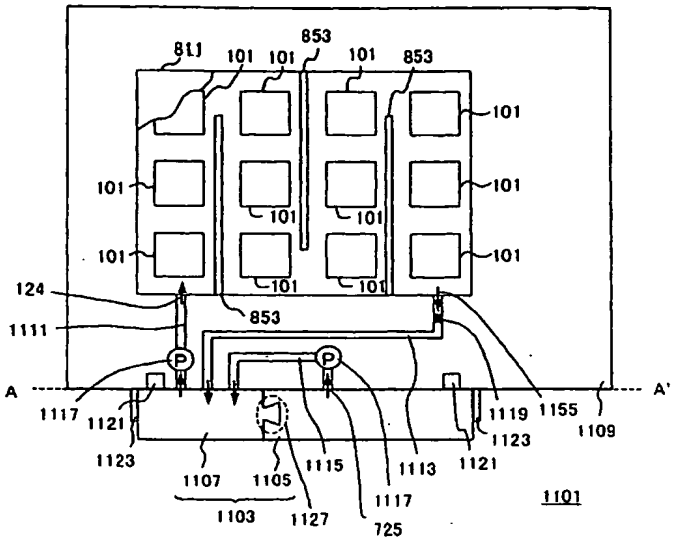
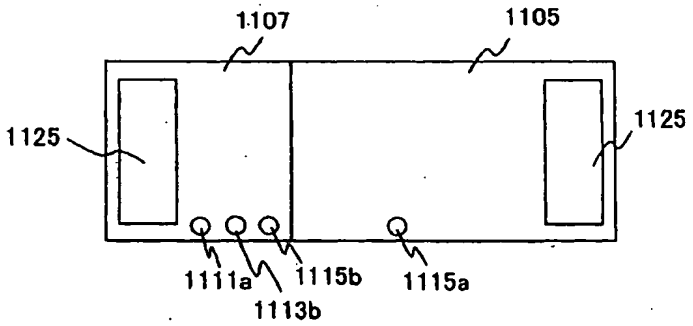


Fig. 2



Figures 1 and 2 of the application show a removably mountable fuel cartridge 1103 that includes a high-concentration fuel tank 1105 (first chamber) and a low-concentration fuel tank 1107 (second chamber).

A constructive feature of the present invention is that a high concentration fuel in the first chamber is supplied to a fuel cell through a low concentration fuel tank (second chamber), instead of the functional feature that the second chamber functions as a mixing tank which has a circulation mechanism

connected to the fuel cell stack. In the present invention, a circulation mechanism connected to the fuel cell stack is not necessary. The above constructive feature is not disclosed or inferred in BECERRA et al.

Instant claim 1 of the present invention recites: "a second chamber for retaining a second liquid fuel, said second liquid fuel being a low-concentration liquid, said second chamber being a fuel mixing tank for mixing said first liquid fuel and said second liquid fuel," and "said second chamber is provided with a fuel outlet port through which said second liquid fuel passes to said fuel cell body, and is provided with a fuel inlet port to which said first liquid fuel is introduced from said first chamber." Instant claim 1 of the present invention also recites: "said fuel cartridge is removably mountable to said fuel cell body."

BECERRA et al. pertain to a fuel container and delivery apparatus for a liquid feed fuel cell system. BECERRA et al. disclose three types of flow of fuel.

One type of flow is shown in Figure 11 of BECERRA et al., which is reproduced below.

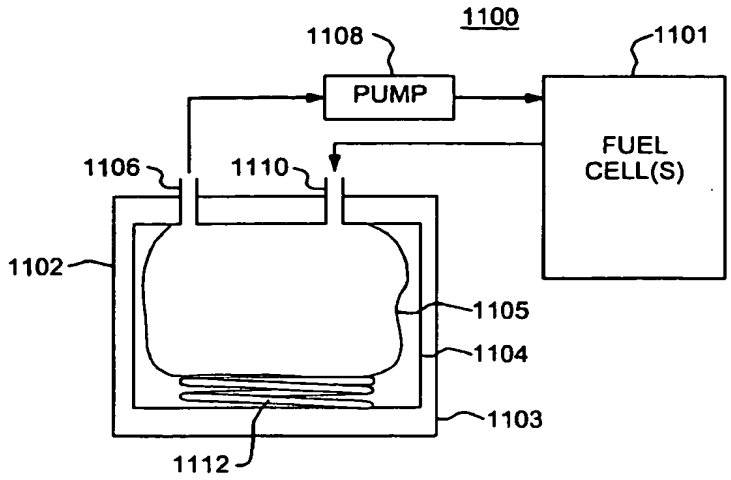


FIG. 11

Figure 11 of BECERRA et al. shows that fuel circulates in a cartridge and a fuel cell.

The Official Action refers to Figure 12 of BECERRA et al., which is reproduced below, which shows the second type of fuel flow.

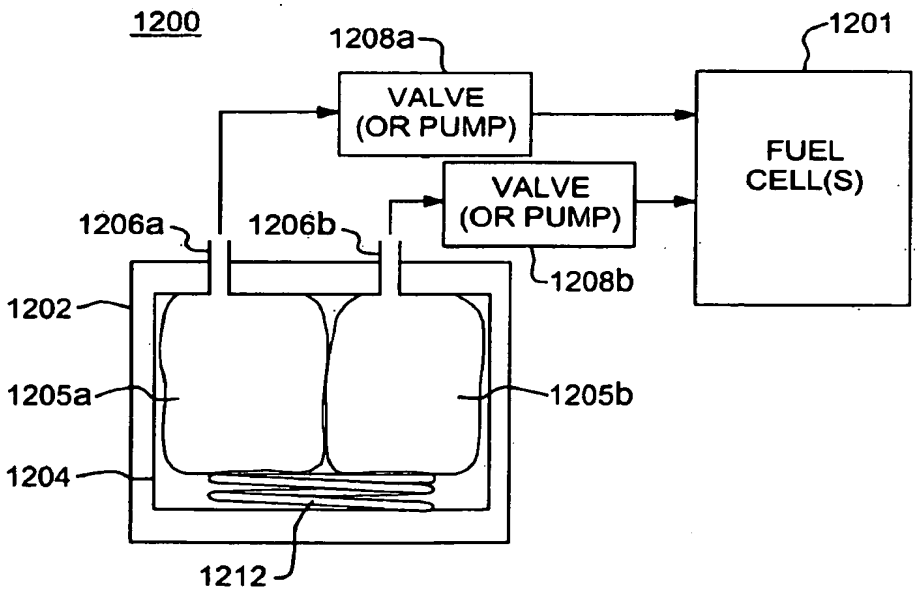


FIG. 12

Figure 12 of BESCERRA et al. shows two kinds of fuel whose concentrations are different from each other.

That is, Figure 12 of BECERRA et al. shows a fuel cell 1201, and a container 1204 that encloses dual fuel bladders 1205a and 1205b. Column 9, lines 41-46 of BECERRA et al. states: "More specifically, a high methanol concentration fuel may be delivered from container 1205a, via fuel outlet 1206a, through an optional pump 1208a. A lower methanol concentration fuel may be delivered from container 1205b, via the fuel outlet 1206b, through an optional pump 1208b." Column 9, lines 46-48 of BECERRA et al. then states: "The fuel concentration can be controlled by switching between high and lower concentration fuels." Figure 12 of BECERRA et al. thus shows a technology where both low concentration fuel and high concentration fuel are fed directly to the fuel cell. This requires a circulation mechanism, which is not necessary in the present invention.

Figure 12 of BECERRA et al. thus fails to disclose a second chamber that functions as a mixing tank that has a circulation mechanism connected to the fuel cell stack, such as in claim 1 of the present invention.

The Official Action refers to Figure 13 of BECERRA et al., which is reproduced below.

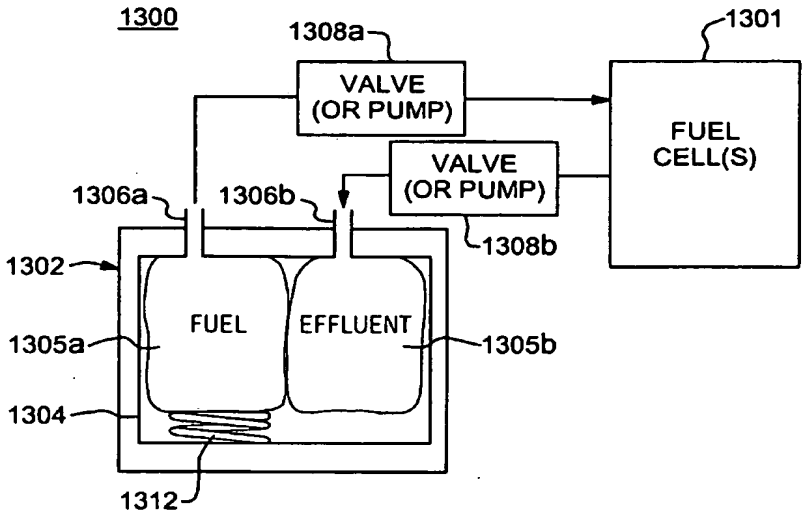


FIG. 13

Figure 13 of BECERRA et al. shows that fuel is supplied to fuel cell from a cartridge, and effluent is supplied to the cartridge from the fuel cell. On the other hand, the present invention supplies fuel to the second chamber of a cartridge, and then the fuel circulates in the second chamber of the cartridge and a fuel cell, as is shown in Figure 1 of the application (reproduced above).

Figure 13 of BECERRA et al. thus fails to disclose a second chamber that functions as a mixing tank that has a circulation mechanism connected to the fuel cell stack, such as in claim 1 of the present invention.

In the Response to Arguments at page 6 the Official Action asserts:

> Applicant argues that "Becerra et al. shows that fuel is supplied to fuel cell from a cartridge, and effluent is supplied to the cartridge from the fuel cell. On the other hand, the present invention

> supplies fuel to the second chamber of a cartridge, and then the fuel circulates in the second chamber of the cartridge and a fuel cell." However, Becerra et al., disclose fuel supplied to the second chamber of a cartridge (col. 4, lines 24-27; col. 9, lines 43-46).

Column 4, lines 24-27 of BECERRA et al. states: "FIG. 12 is a schematic cross section of one embodiment of the fuel container and delivery assembly in which a dual bladder sub-assembly provides a high concentration fuel and a low concentration fuel." Column 9, lines 43-46 states: "A lower methanol concentration fuel may be delivered from container 1205b, via the fuel outlet 1206b, through an optional pump 1208b."

From this, it is clear that the mixing of the BECERRA et al. technology is inside the fuel cell itself, and there is no teaching or inference of mixing outside of the fuel cell. It is noted that Figures 12 and 13 of BECERRA et al. do not disclose a meter to measure concentration of recovered fuel (which provides information to aid mixing in the second chamber), such as is set forth in newly presented claim 21 of the present invention.

As a result, BECERRA et al. fail to anticipate claim 1 of the present invention. The other references applied to reject claims 8 and 9 fail to address the above-described deficiencies of BECERRA et al., and a *prima facie* case of unpatentability has thus not been made. Claims depending upon claim 1 are patentable for at least the above reasons.

These rejections are believed to be overcome, and withdrawal thereof is respectfully requested.

Conclusion

The Examiner is thanked for considering the Information Disclosure Statement filed November 1, 2007 and for making an initialed PTO-1449 Form of record in the application.

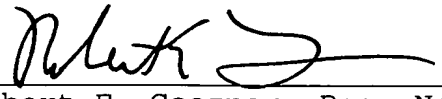
Prior art of record but not utilized is believed to be non-pertinent to the instant claims.

The rejections are believed to have been overcome, obviated or rendered moot and that no issues remain. The Examiner is accordingly respectfully requested to place the application in condition for allowance and to issue a Notice of Allowability.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON



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